

# Flood Preparedness and Mitigation Guide

Schultz Flood Hotline: (928) 679-8390

Schultz Flood Email: [schultzmitigation@coconino.az.gov](mailto:schultzmitigation@coconino.az.gov)

Schultz Flood Webpage: [www.coconino.az.gov/SchultzFloodInformation](http://www.coconino.az.gov/SchultzFloodInformation)



Restore. Revive. Renew.  
Through Partnership

SCHULTZ COMMUNITY RECOVERY

## Sign up for CodeRED, the County's Emergency Notification Service!

### CodeRED

is Coconino  
County's free  
Emergency  
Notification  
service  
that alerts  
residents and  
businesses

Sign up for...



about time-sensitive general and  
emergency situations – including wildfires,  
thunderstorms, tornadoes and flash  
flooding – that can impact our region  
throughout the year and especially during  
monsoon season. Users can receive the  
latest updates on home and cell phones or  
via text and e-mail messages.

Go to [www.coconino.az.gov/emergency](http://www.coconino.az.gov/emergency)  
to register for **CodeRED**.

For more information, please contact the  
Coconino County Emergency Management  
Division at (928) 679-8311.

**THE RISK IS REAL.  
Purchase or  
renew your flood  
insurance now.**



The County strongly encourages all  
property owners to purchase and maintain  
flood insurance. Flood insurance should  
be maintained even in those corridors  
where flood mitigation has been or is being  
constructed, and remains the only way to  
address impacts to homes from flooding.

For information call the National Flood  
Insurance Program at 1-800-720-1093  
or visit [www.floodsmart.gov](http://www.floodsmart.gov).

Summer 2015



*Vegetative recovery is well underway in mitigated watersheds.*

### Dear Schultz Flood Area Property Owner,

Thank you for your interest in the *2015 Flood Preparedness & Mitigation Guide*. This year's Guide highlights the Schultz Flood mitigation projects that are currently under construction, which represent an investment of more than \$10 million in flood mitigation for 2015. In addition, the Guide continues to offer flood preparation guidelines and resources to help keep you and your family aware, informed and safe during the monsoon season.

We are very pleased to be in construction again this year to complete the long-term flood mitigation infrastructure for the Schultz Flood area. These projects reflect the County's success in securing the maximum possible amount of funding to develop the long-term flood mitigation projects necessary to reduce the flooding threat to lives, public infrastructure, utilities and private property in the Schultz Flood area.

When the 2015 projects are completed, more than \$30 million will have been invested in flood mitigation by the Coconino County Flood Control District (FCD) and its funding partners, which include the Natural Resources Conservation Service's (NRCS) Emergency Watershed Protection (EWP) program; the U.S. Forest Service, the Federal Emergency Management Agency (FEMA), the Arizona Division of Emergency Management (ADEM) and the Federal Highway Administration (FHWA). This is an unprecedented accomplishment that would not have been possible without the cooperation, support and patience of Schultz Flood area residents.

However, it remains extremely important to remember that these measures are designed to mitigate, not eliminate the threat of flooding. As we learned during the 2013 monsoon season – the region's second wettest on record – the threat of dangerous flash flooding remains. During that season, properties downstream of the southern portion of the burn area sustained their most significant flooding since the Schultz Fire of 2010, including damage from the largest single storm to hit the burn area to date that produced 2.6 inches of rainfall in one hour. In addition, watersheds to the north experienced significant rainfall totals.

Please know that Coconino County continues to stand with you and is working hard on your behalf. We thank you for your continuing cooperation and hope you find the information in this Guide valuable and supportive.

Sincerely,

Elizabeth "Liz" Archuleta  
District 2 Supervisor

Mandy Metzger  
District 4 Supervisor



# Restore...Revive...Renew. The Five-Year Journey of Schultz Flood Area Mitigation

Summer 2015 marks two important milestones for the Schultz Flood area. The first is the fifth anniversary of the 2010 Schultz Fire that charred more than 15,000 acres and then caused devastating flooding throughout the area. The second is the completion of more than \$30 million in mitigation projects to help reduce the flooding threat in the Schultz Flood area.

Looking back, the challenges faced by the County and Schultz Flood area residents seemed almost insurmountable. What was known is that natural recovery of the burn area would take decades. What was truly needed was a feasible way to restore the watersheds and create comprehensive flood mitigation within area neighborhoods.

For the Coconino County Flood Control District (FCD), the answer came by way of an innovative approach to post-fire flood mitigation: Emergency Watershed Protection (EWP) projects funded by the FCD and the Natural Resources Conservation Service (NRCS). The EWP program supported construction of an

integrated on- and off-forest flood mitigation system where on-forest sediment reduction measures would accelerate the stabilization of watersheds and off-forest channels would then convey floodwater.

Because flood mitigation of this scale and complexity had never been attempted before, creating Schultz Flood area EWP projects was an extremely challenging process. Each project required the support of Schultz Flood area property owners, many of whom would be asked to provide drainage easements for these projects. To educate property owners about how EWP projects worked, the County hosted more than a dozen “Corridor Meetings” to discuss the requirements for these projects.

This was a property owner-driven process. Because each Schultz neighborhood was impacted differently by flooding, neighborhood support for projects varied greatly from corridor to corridor. For example, support in the Copeland and Peaceful corridors was significantly lower than in other, high flood impact corridors primarily

because these corridors have experienced minimal or no impacts since 2011. This includes the 2013 monsoon season - the region’s second wettest on record - during which the Copeland watershed sustained over 13 inches of rainfall during several major rain events.



After the 2013 monsoon season was over, it was discovered that the wider, flatter alluvial fans in the Copeland area are functioning and absorbing a great deal of water and capturing sediment as they

would do in pre-wildfire conditions. In addition, soil and vegetation from natural watershed recovery are absorbing more rainwater and flood flows. Conversely, steeper grades and lack of natural recovery in corridors like Paintbrush and Campbell continued to cause severe impacts from even typical monsoon events until EWP flood mitigation was constructed.

## Where We Go from Here...

While the Schultz Flood area mitigation projects are nearing completion, the County’s commitment to monitor the entire area during monsoon season will continue. The FCD is working with its partners to evaluate the current emergency alert thresholds for Schultz burn area rain gauges - including those in the Copeland and Peaceful watersheds - to provide for appropriate, accurate coverage and communication. It is likely that future alerts will only be triggered by greater amounts of rainfall in those corridors where mitigation has been conducted. However, it is important to remember that **NO** emergency system is fail-safe and the best real-time monitoring is still done by you using National Weather

Service (NWS) information. Although the FCD is not pursuing further Schultz Flood area mitigation projects, **it is very important to note that the entire area still remains at risk for post-wildfire flooding because vegetation and soils will take many more years to fully recover.** This is particularly true in the Copeland and Peaceful corridors where no watershed restoration has taken place, channels remain degraded and could change unpredictably and major monsoon events could reactivate floodways. On-forest mitigation in other corridors has proven to be effective, but post-wildfire conditions still remain and pose a continued, elevated flood risk in these corridors as well.

The EWP projects have established the Schultz Flood area as a pioneer in post-fire flood mitigation. All completed projects are functioning as designed, and the on-forest measures have exceeded expectations with regards to emulating and accelerating the forest’s natural healing process on the mountain. This should provide all Schultz area residents with a well-deserved sense of pride and accomplishment.

## 2015 Flood Mitigation Projects Currently Under Construction

### Copeland Detention Basin Project

The Copeland Detention Basin Project will reduce impacts to U.S. Highway 89 from flooding resulting from increased runoff caused by the 2010 Schultz Wildfire. The project will also significantly reduce potential flooding impacts to communities east of the highway, including Fernwood and Doney Park as well as the Regional Landfill.

Located on an 80-acre parcel of land bounded by East Copeland Lane to the south, Kevins Way to the north, residential property to the west and US 89 to the east, the Copeland Detention Basin Project is designed to collect and temporarily store floodwater coming from the northern portion of the burn area. Floodwater will then be metered out of the basin and flow downstream under Highway 89.

The Copeland Detention Basin Project is managed by the Arizona Department of Transportation (ADOT), not Coconino County. All inquiries regarding this project should be directed to ADOT’s Project Hotline at (855) 712-8530.



Start Date: **April 2015**  
Targeted Completion: **Mid-Fall 2015**  
Project Cost: **\$5.3 Million**  
Funding Entities: **Coconino County Flood Control District and Federal Highways Administration**

### South Paintbrush EWP Project

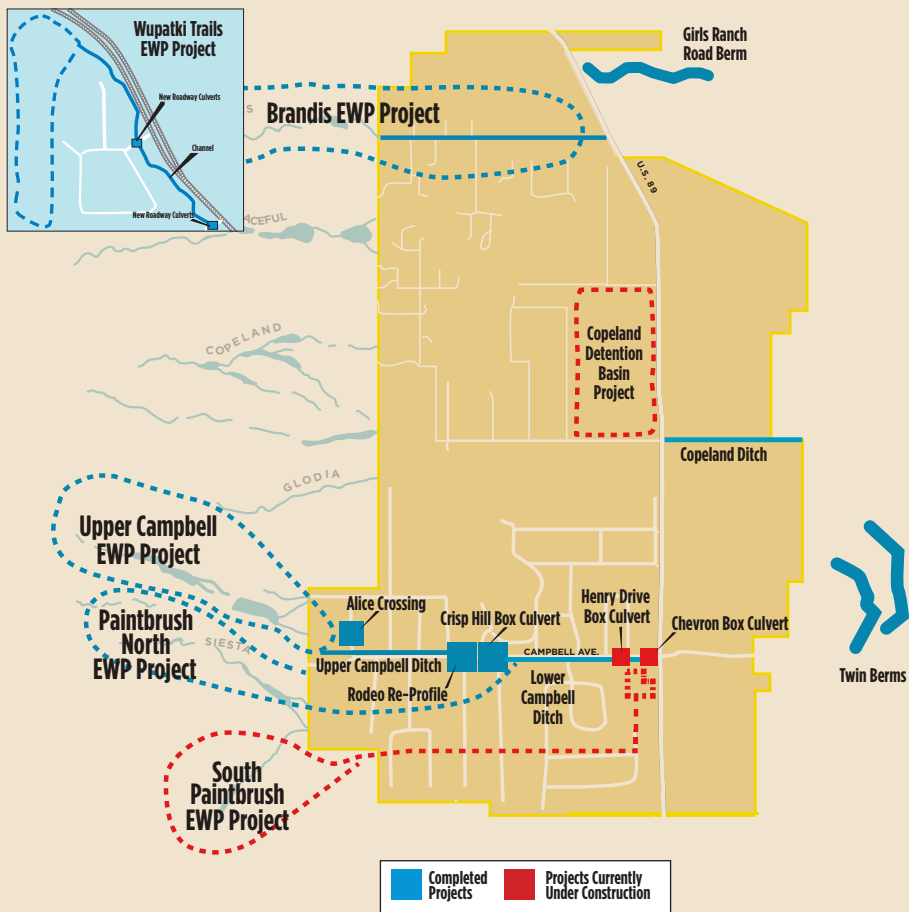
The South Paintbrush Emergency Watershed Protection (EWP) Project mitigates flooding in the southern area of the Paintbrush neighborhood. This area continued to be among the most heavily impacted during monsoon season. Designed to accommodate a five year, 6-hour rainstorm event, the South Paintbrush EWP Project creates on-forest watershed restoration and sediment-reduction measures, an off-forest conveyance and a detention basin to temporarily collect floodwater and meter it out to Campbell Avenue.

Start Date: **April 2015** Targeted Completion: **Mid-July 2015**  
Project Cost: **\$4.1 Million**  
Funding Entities: **Coconino County Flood Control District and NRCS EWP Program**





# Projects Completed and Under Construction



## For More Corridor Information...

For more information about these and already completed flood mitigation projects, please visit the Schultz Flood Webpage at <http://www.coconino.gov/SchultzFloodInformation>



## Lower Campbell Box Culverts Project

The Lower Campbell Box Culverts Project is designed to upsize two existing box culverts – one at Henry Drive and the other at the Chevron Station near Highway 89 – on the south side of Campbell Avenue. The new, larger box culverts will more efficiently accommodate the floodwater capacity of the Lower Campbell Drainage System that has been improved during the last three years to convey floodwater from Upper Campbell and North Paintbrush neighborhoods down to Highway 89 via the Lower Campbell Ditch.

Start Date: **April 2015**  
Targeted Completion: **Mid-July 2015**  
Project Cost: **\$900,000**  
Funding Entities: **Coconino County Flood Control District**



# By the Numbers

Year & Project	Funding	Totals
2010/2011 Engineering Studies (Hydraulics, Hydrology, Cinder Lakes Capacity, Sediment Transport)	Coconino County Flood Control District • \$200,000 Partners: FEMA/U.S. Geological Survey/Arizona Division of Emergency Management • \$300,000	\$500,000
2011-2013 Mitigation Projects Engineering	Coconino County Flood Control District • \$1,000,000 Partners: FEMA/Arizona Division of Emergency Management/Natural Resources Conservation Service • \$1,000,000	\$2,000,000
2011 Copeland Ditch	Federal Highway Administration • \$1,200,000	\$1,200,000
2011 Twin Berms	U.S. Forest Service • \$325,000	\$325,000
2012 Lower Campbell Ditch	Coconino County Flood Control District • \$800,000 Partners: FEMA/Arizona Division of Emergency Management \$1,200,000	\$2,000,000
2012 Girls Ranch Road Berm	Coconino County Flood Control District • \$150,000 Partners: Coconino Resource Advisory Council • \$150,000	\$300,000
2012 Rodeo Drive Reprofile	Coconino County Flood Control District • \$150,000 Partners: FEMA/Arizona Division of Emergency Management \$150,000	\$300,000
2013 Brandis Way EWP Project (On- and Off-Forest)	Coconino County Flood Control District • \$2,000,000 Partner: Natural Resources Conservation Service • \$1,800,000	\$3,800,000
2013 Wupatki Trails EWP Project (On- and Off-Forest)	Coconino County Flood Control District • \$300,000 Partner: Natural Resources Conservation Service • \$700,000	\$1,000,000
2013 Upper Campbell Ditch (Construction & Repair)	Coconino County Flood Control District • \$300,000 Partners: FEMA/Arizona Division of Emergency Management \$900,000	\$1,200,000
2013 Crisp Hill Box Culvert	Coconino County Flood Control District • \$1,000,000	\$1,000,000
2014 Upper Campbell EWP Project (On- & Off-Forest)	Coconino County Flood Control District • \$1,100,000 Partners: Natural Resources Conservation Service/U.S. Forest Service \$1,100,000	\$2,200,000
2014 Paintbrush North EWP Project (On- & Off-Forest)	Coconino County Flood Control District • \$1,015,000 Partner: Natural Resources Conservation Service/U.S. Forest Service \$1,900,000	\$2,915,000
2014 Paintbrush North Individual Lot Mitigation Measures (EWP)	Coconino County Flood Control District• \$248,000 Partner: Natural Resources Conservation Service • \$60,000	\$308,000
2014 South Paintbrush Individual Lot Mitigation Measures (EWP)	Coconino County Flood Control District• \$264,000 Partner: Natural Resources Conservation Service • \$52,000	\$316,000
2014 Alice Drive Crossing	Coconino County Flood Control District• \$287,000 Partner: FEMA • \$163,000	\$450,000
2015 Lower Campbell Box Culverts Project	Coconino County Flood Control District• \$900,000	\$900,000
2015 South Paintbrush EWP Project (Utilities + On- & Off-Forest)	Coconino County Flood Control District• \$917,000 Partner: Natural Resources Conservation Service • \$3,150,000	\$4,067,000
2015 South Paintbrush Individual Lot Mitigation Measures (EWP)	Coconino County Flood Control District• \$47,000 Partner: Natural Resources Conservation Service • \$33,000	\$80,000
Fall 2015 Copeland Detention Basin Project	Coconino County Flood Control District • \$1,891,000 Partner: Federal Highways Administration • \$3,409,000	\$5,300,000
2010 – 2015 Grand Total:	Coconino County Flood Control District \$12,569,000 Other Partners: \$17,592,000	\$30,161,000



5600 Commerce  
Flagstaff, AZ 86004

## Resources

**Schultz Flood Hotline** .....(928) 679-8390 or (877) 679-8390  
**Schultz Flood Email**..... [schultzmitigation@coconino.az.gov](mailto:schultzmitigation@coconino.az.gov)  
**Schultz Flood Webpage**.....[www.coconino.az.gov/SchultzFloodInformation](http://www.coconino.az.gov/SchultzFloodInformation)  
**ADOT Copeland Detention Basin Project Hotline**.....(855) 712-8530

**National Weather Service – Schultz Flood Web Page**  
**[www.coconino.az.gov/SchultzWeatherInfo](http://www.coconino.az.gov/SchultzWeatherInfo)**

Summit Fire.....	<b>Dial 911 in an Emergency</b>
(U.S. 89).....	(928) 526-1724
(Koch Field Road/Main Office) .....	(928) 526-9537
United States Forest Service Flagstaff Ranger District .....	(928) 526-0866
Coconino County Humane Society .....	(928) 526-1076
Second Chance Center for Animals .....	(928) 526-5964
Cinder Lake Landfill .....	(928) 527-1927
American Red Cross .....	(928) 779-5494
UniSource Energy Services .....	(928) 525-8103
Arizona Public Service (APS) .....	(800) 253-9405
CenturyLink.....	(800) 573-1311
Doney Park Water.....	(928) 526-1080
SuddenLink Communications .....	(928) 774-5336

For further information and additional resources in more detail:  
**[www.coconino.az.gov/emergency](http://www.coconino.az.gov/emergency) • [www.floodsmart.gov](http://www.floodsmart.gov) • [www.fema.gov](http://www.fema.gov)**

The County has established a self-serve sandbag station located at the old Tumbleweed Store just north of the Summit Fire Station on Highway 89. Properly filling and constructing a sand bag wall is important. For more information on sandbag walls and other flood preparation resources, please visit the Schultz Flood Web Page at [www.coconino.az.gov/SchultzFloodInformation](http://www.coconino.az.gov/SchultzFloodInformation)



**United Way of Northern Arizona** continues to coordinate efforts to provide flood area residents with assistance in preparing for the upcoming monsoon season. The County thanks United Way of Northern Arizona for organizing important volunteer events and providing an opportunity for the broader community to assist their neighbors in the Schultz Flood area.

## This Monsoon Season, Staying Ahead of the Storm is as Easy as 1-2-3-4...

This monsoon season, Coconino County and the National Weather Service (NWS) are again committed to helping Schultz Flood area residents keep aware and informed about monsoon storms. Because these fast-moving storms can arrive with little or no warning, getting accurate weather and flood information as soon as possible is absolutely critical to your safety.

Following are four easy steps that will help to protect you, your family and your property during monsoon season:

- 1. Sign Up for CodeRED.** (See front cover for Information)
- 2. Get a Weather Radio for Storm Information...**  
A weather radio remains a very valuable tool for obtaining vital NWS weather information about incoming monsoon storm events. Please make sure that yours is in good working order and that you have a supply of fresh batteries readily available.
- 3. Regularly Check the NWS Flagstaff website for local burn area hazard information...**  
Check for the most current weather information warnings, radar and rain gauge data on the NWS Schultz Page that is available at [www.coconino.az.gov/SchultzWeatherInfo](http://www.coconino.az.gov/SchultzWeatherInfo)
- 4. Use Social Media for Flood-Related Information...**  
For those with smart phones and PC's, social media is a great way to keep apprised of flood-related information and associated County response activities. We encourage everyone who uses social media to "Like" Coconino County on Facebook and to "Follow" us on Twitter:  
f <https://www.facebook.com/CoconinoCounty>  
t <https://twitter.com/#!/coconinocounty>

Sign-up for Facebook & Twitter also is available on the bottom of the left navigation bar on all County web pages including the Schultz Flood Web Page at <http://www.coconino.az.gov/SchultzFloodInformation>.

## Weather Terminology: Understanding NWS Watches, Warnings, and Advisories



- FLOOD/FLASH FLOOD WATCH** is issued when the expectation of a flood event has increased, but its occurrence, location, and/or timing is still uncertain. Usually are issued within 48 hours of the forecast flood event.
- FLASH FLOOD WARNING** is issued when flash flooding is occurring or is imminent. Individuals in the warned area should take immediate precautions to protect life and property.
- SMALL STREAM FLOOD ADVISORY** is issued for elevated river/stream flows, ponding of water in urban or other areas, and for flooding that is generally only an inconvenience (not life threatening) to those living in the affected area.

